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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,152	10/15/2001	Takeshi Takezawa	110858	9283
25944	7590	06/16/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			NGO, HUYEN LE	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant No.

09/976,152

Applicant(s)

TAKEZAWA ET AL.

Examiner

Julie-Huyen L. Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 12-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 3, 2004, has been entered.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The abstract of the disclosure is objected to because it contains more than one paragraphs and not clearly states which is new in the art to which the invention pertains.

The specification is objected to as failing to describe how to reduce the angle of incidence of the light striking the driving elements/TFTs as recited in claim 2. It appears that the angle of the light incident upon the liquid crystal device is reduced rather than the incident angle that strikes the driving element since the invention is to avoid the light incidence on the driving element. Also it is unclear how the angle of the light incident upon the liquid crystal device, the angle of incidence of the light striking the driving elements/TFTs are defined with respect to any optical axis, and how these angle are restricted or become smaller since the center axis of the light (FCLO) incident upon the

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condenser lens 400 is shifted so as to be parallel and/or coincide to an optical axis (FCL) of the condenser/field lens.

The specification is objected to because of the description of how the angle of the light incident upon the liquid crystal device be restricted or reduced for example in paragraph "[0090] *In the projector of the embodiment, as shown in FIGS. 11(A) and 11(B), by shifting an optical axis FCL of a field lens 400, which is a condenser lens provided at the light-incident side of its corresponding liquid crystal panel 411, parallel to a center axis FCLO of the light incident upon the field lens, the angle of the light incident upon the liquid crystal panel 411 is restricted. The optical axis FCL of the field lens 400 is shifted so that the angle of incidence of the light striking the TFTs 530 becomes small when the center axis FCLO of the light incident upon the field lens 400 and the optical axis FCL of the field lens 400 coincide.*" The description is inconsistent with each other since the two optical axes (FCL & FCLO) were described to be parallel than coincide. In either case there would not be any angle formed between them since the two optical axes are not meet as being parallel, nor crossing each other in order to form an angle as they are coincide. Also the angle of incident light striking the TFTs 530, and the angle of light incident upon the liquid crystal have not been clearly defined, e.g., with respect to either of the center axis (FCLO) of the light incident upon the field lens, and/or the optical axis (FCL) of the field lens 400. Further more, it is unclear what Applicant is referring to as "the center axis of the light incident upon the field lens"?

The amendment filed on May 3, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material that is not supported by the original disclosure is as follows:

The description for figure 25 (newly added drawing) in the specification regarding: "the center axis of the light incident upon the condenser is shifted parallel to the optical axis of the projection lens 40, so that the angle of light incident upon the liquid crystal panel 411 is restricted and the light beams do not strike the TFT 530". Also this limitation is not shown in figure 25.

Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

The drawings are objected to because of the following subject matter:

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

In most drawings, for example figures 12, 14, 16, 23, 24 and 25, the reference signs designated for the centered dotted lines, the center axis (FCLO) of the light incident upon the field lens 400, optical axis (OCL) of the projection lens 40, and the optical axis (FCL) of the field lens 400.

In figure 25, some of the incident beams are shown going through the light-shielding mask 6, which do not allow light passing through as shown. Also, the drawing fails to include the reference signs designated for the center axis (FCLO) of the light incident upon the field lens and the optical axis (FCL) of the field lens 400.

Furthermore, as the field lens 400 is shifted toward the right of the LCD, the optical axis (FCL) of the field lens 400 is also shifted toward the right, therefore the angle of light incident upon the liquid crystal is varied depending how the optical axis of the field lens is shifted, than how can it be restricted?

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the features canceled from the claims. No new matter should be entered.

In claim 1, "*shifting of a center axis of the light incident upon the condenser lens so as to be parallel to an optical axis of the condenser lens.*"

In claims 13-15, the viewing angle compensating films recited in these claims.

In claim 16, the features recite in this claim, particularly the channel areas and semiconductor layers situated below the scanning line on the base substrate.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 2, 3 and 12-18 are objected to because of the following informalities:

In lines 6-7 of claim 2, the recitation calling for "*the light-shielding mask that covers at least a portion of the drive elements*" is inconsistent with what being disclosed in the drawings, e.g., figures 12, 14, 16 and 25, which show that the light shielding mask 6 completely covers one driving element 530.

Claim 12 is objected to as merely reciting a functional in scope without any structural relationship in order to perform said function.

All claims that are depended from the above-mentioned claims and are not specifically discussed above are objected as bearing the defects of the claim(s) from which they depend.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 3 and 12-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The recitation calling for in the last clause of claim 2, "*a condenser lens being further provided at a light-incident side of the liquid crystal device, an incident angle of light that strikes the drive elements reducing in response to a shifting of a center axis of the light*"

incident upon the condenser lens so as to be parallel to an optical axis of the condenser lens, so as to restrict the angle of the light incident upon the liquid crystal device.” According to the specification paragraph [0090] as quoted above in the objection to the specification, *the angle of incident of the light striking the TFTs 530 becomes small when the center axis FCL0 of the light incident upon the field lens 400 and the optical axis FCL of the field lens 400 coincide, and the angle of the light incident upon the liquid crystal panel 411 is restricted by shifting an optical axis FCL of a field lens 400 parallel to a center axis FCL0 of the light incident upon the field lens. THE TWO ANGLES ARE NOT RELATED AND NOT IN RESPONDING to the shifting of a center axis of the light incident upon the condenser lens so as to be parallel to an optical axis of the condenser lens.*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 2, 3 and 12-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, it is unclear what Applicant is referring to as “the center axis of the light incident upon the field lens”? Also it is unclear from the language of the claim how and what mechanism is used for shifting the optical axis of the condenser lens and optical axis of light incident upon the condenser lens in order to reduce the incident angle of light that strikes the drive elements in respond to the shifting of the optical axis

of the light incident upon the condenser lens so as to be parallel to an optical axis of the condenser lens, so as to restrict the angle of the incident upon the liquid crystal device.

In claim 3, "the same direction as the optical axis of the condenser lens" lacks antecedence since the direction of the optical axis of the condenser lens has not been recited.

In claims 12-16, it is unclear from the language of the claims whether the light incident upon the liquid crystal device are the light that are condensed by the condenser lens or another light, and also which light since there are different light condensed into different directions, and so what considers to be the "center axis" of light incident upon the liquid crystal device, and which light?

Claims 13-15, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

The structural cooperative relationship of the elements (e.g., the condenser lens) recited in claim 2 and the viewing angle compensating film(s) recited in claims 12-15, and the color light separation optical system recited in claims 17, and the plurality of liquid crystal devices recited in claim 8.

All claims that are depended from the above-rejected claim(s) and are not specifically discussed above are rejected as bearing the defects of the claim(s) from which they depend.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2-3 and 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogawa (US6195143B1).

With respect to claims 2, 3 and 12-16, Ogawa teaches (Figs. 1 and 3) forming a projector comprising:

Claim 2,

- a light source 30;
- a liquid crystal device 80, which modulates light emitted from the light source;
- projection lens 90, which projects the light modulated by the liquid crystal device;

wherein the liquid crystal device (Fig. 3) having:

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- a base substrate 821 that has a plurality of pixel electrodes 823 disposed in a matrix arrangement and drive elements 822 each provided for corresponding one of the pixel electrodes 823 and electrically connected thereto,
- a counter substrate 825 provided with a light-shielding mask 826P which covers at least a portion of the drive elements,
- liquid crystal 827 provided between the base substrate and the counter substrate;
- a condenser lens 60 being provided at a light-incident side of the liquid crystal device, wherein, the field lens 70 shifting a center axis of light incident upon the condenser lens and an optical axis of the condenser lens in parallel to reduce the incident angle of light that strikes the drive elements, the angle of the light incident upon the liquid crystal device is restricted (see figures 1&3, and col. 7, line 63 to col. 8, line 22)

wherein

- the angle of light incident upon the liquid crystal device is restricted not to allow the light to strike the drive elements (as shown in figure 3)

Claim 3,

- an optical axis of the projection lens being shifted parallel to the center axis of the light incident upon the condenser lens in the same direction as the optical axis of the condenser lens (figure 1)

Claim 12,

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- a center axis of the light incident upon the liquid crystal device coincides with a distinct-vision direction of the liquid crystal device

Claim 13,

- a viewing angle compensating film (polarizer 840) which causes a center axis of the light incident upon the liquid crystal device and a distinct-vision direction of the liquid crystal device to coincide is further provided at the light-incident side of the liquid crystal device

Claim 14,

- a viewing angle compensating film (polarizer 870) which causes a center axis of light emitted from the liquid crystal device and a distinct-vision direction of the liquid crystal device to coincide is further provided at a light-exiting side of the liquid crystal device

Claim 15,

- a viewing angle compensating films (polarizers 840 and 870), which causes a center axis of light emitted from the liquid crystal device and a distinct-vision direction of the liquid crystal device to coincide is further provided at the light-incident side and the light-exiting side of the liquid crystal device

Claim 16,

- a scanning line and a data line crossing and situated above the scanning line on the base substrate are provided at the base substrate, and the drive elements are connected to the data lines and the scanning line

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US6195143B1) as applied to claim 2 above and further obvious as follows:

Ogawa teaches (col. 5, lines 32-42) that the projector can comprise a color separator that separates the illumination light into a plurality of colors; a plurality of liquid crystal devices to receive each of the plurality of colors, which are separated by the color separator. Doing so would enable color images to be displayed with improved contrast (e.g. figures 7).

Therefore, it would have been obvious for the projector as disclosed above in claim 2 to include:

Claim 17,

- a color light separation optical system, which separates the light emitted from the light source 30 into light beams of a plurality of colors, and being disposed between the light source and the liquid crystal device

Claim 18,

- a plurality of liquid crystal devices, which modulate light emitted from the light source, in correspondence with the light beams of a plurality of colors

Doing so would enable color images to be displayed with improved contrast in the projector disclosed by Ogawa.

Response to Arguments

Applicant's arguments filed on May 3, 2004 have been fully considered but they are not persuasive since claim 2 as amended constitutes new subject matter and so unclear of how the angle of light that strikes the drive elements be reduced in respond to the to a shifting of the optical axis of the light incident upon the condenser lens so as to be parallel to an optical axis of the condenser lens, so as to restrict the angle of the incident upon the liquid crystal device. Therefore, the claims are being rejected as best understood.

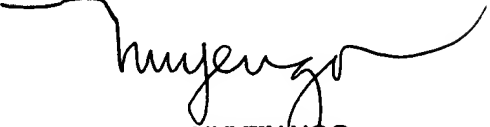
Ogawa projector as set forth above in the rejection discloses the features recited in claims 2, 3 and 12-18.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (571) 272-2295. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (571) 272-2293.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.


**HUYEN NGO
PRIMARY EXAMINER**